

REMARKS

The Office Action issued April 08, 2002 has been reviewed and the comments of the U.S. Patent and Trademark Office have been considered. Claims 1 and 8 have been amended. Claims 2, 5, 7-24 have been withdrawn from consideration pursuant to a restriction and election requirement. Accordingly, Applicants request reconsideration of the elected claims 1-13, and further request reconsideration of all pending claims.

Initially, it is noted that claim 8 has been amended to link Invention I and II, the inventions being categorized as Invention II by the Examiner in the Restriction/Election Requirement of August 17, 2001. As amended, claim 8 recites the particulars of a fuel injector that generates the claimed spray pattern. Applicants respectfully submit that the reason for establishment of two inventions by the Office has been obviated. Hence, Applicants believe that the product claimed cannot be made by another and materially different apparatus from Invention I. Accordingly, Applicants respectfully request rejoinder of claims 8-12.

Figure 1 has been objected for failing to include a legend designating --Prior Art--. Applicants respectfully submit that this Figure is not prior art because the Figure shows a CNG fuel injector described by a copending application. Accordingly, the objection to the drawing has been overcome and should be withdrawn.

Claims 1, 3, 4 and 6 stand rejected under 35 U.S.C. §102 as being anticipated by U.S. Patent No. 5,209,408 to Reiter.

Insofar as the rejection is applicable to amended claim 1, Applicants respectfully traverse this rejection because Reiter fails to teach or suggest the claimed invention as a whole. In particular, claim 1 has been amended to recite, among other features, that a portion surface of each seat passage is aligned with seat surface. That is, a portion of the surface of each of the seat passages lies on the same line as the seat surface.

In contrast, Reiter shows a valve seat body 5 with outlet openings 14. Each of the outlet openings 14 extends through the valve seat 13 to form a passage through the valve seat 13 of Reiter. The surfaces of each passage through outlet opening 14 of Reiter are offset with respect to a surface of the valve seat 13— *instead* of A portion of the passage surface of each passage aligned with the surface of the seat, as recited in claim 1. Accordingly, claim 1 is patentable over Reiter.

Claims 3, 4 and 6 depend ultimately from allowable claim 1, and are also allowable at least for these reasons, as well as for reciting other features.

CONCLUSION

In view of the foregoing remarks, Applicants respectfully request the reconsideration and reexamination of this application and allowance of the pending claims 1-20. Applicants respectfully invite the Examiner to contact the undersigned at (202) 739-5203 if there are any outstanding issues that can be resolved via a telephone conference.

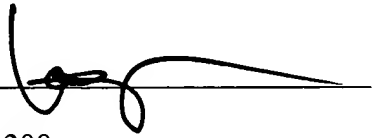
Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached pages are captioned "**VERSION WITH MARKINGS TO SHOW CHANGES MADE.**"

EXCEPT for issue fees payable under 37 C.F.R. §1.18, the Commissioner is hereby authorized by this paper to charge any additional fees during the entire pendency of this application including fees due under 37 C.F.R. §§1.16 and 1.17 which may be required, including any required extension of time fees, or credit any overpayment to Deposit Account No. 50-0310. This paragraph is intended to be a **CONSTRUCTIVE PETITION FOR EXTENSION OF TIME** in accordance with 37 C.F.R. §1.136(a)(3).

Respectfully submitted,

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IN THE CLAIMS:

Claims 1 and 8 have been amended as follows:

1. (Amended) A fuel injector having a fuel inlet, a fuel outlet, and a fuel passageway extending from the fuel inlet to the fuel outlet along a longitudinal axis, the fuel injector comprising:

a body;

a needle slidingly disposed within the body between a first position and a second position; and

a seat disposed at the fuel outlet, the seat including:

a seat surface contiguous to a portion of the needle in the first position to form a seal between the fuel passageway and the fuel outlet, the seat surface being spaced from the portion of the needle in a second position of the needle to permit fuel flow through the fuel outlet, the seat surface being oblique to the longitudinal axis; and

having a plurality of passages, each of the plurality of passages having a passage surface extending along a central axis having that defines an angle of inclination relative to the longitudinal axis, a portion of the passage surface aligned with the surface of the seat.

8. (Twice Amended) A spray pattern of fuel generated by a fuel injector comprising:

having a fuel injector including:

a fuel inlet, a fuel outlet, a fuel passageway extending from the fuel inlet to the fuel outlet along a longitudinal axis, a body, a needle slidingly disposed within the body between a first position and a second position, a seat surface contiguous to a portion of the needle in the first position to form a seal between the body, a seat disposed at fuel passageway and the fuel outlet, the seat having surface being spaced from the portion of the needle in a second position of the needle to permit fuel flow through the fuel outlet that generates a spray pattern, the seat surface being oblique to the longitudinal axis, a plurality of passages, each of the plurality of passages having a passage surface extending along a central axis having that defines an angle of inclination relative to the longitudinal axis, a portion of the passage surface aligned with the surface of the seat; and

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the spray pattern comprising:~~including:~~

at least two portions of fuel, the fuel being combustible in a combustion chamber of an internal combustion engine, wherein a first portion includes a fan shape spray of fuel and the second portion includes at least one plume of fuel adjacent the fan shape spray.
